

INFORMATION DISCLOSURE STATEMENT  
Examining Group Unknown  
Patent Application  
Docket No. UF-174D4  
Serial No. Not yet assigned

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : Unknown  
Art Unit : Unknown  
Applicant(s) : David Michael Young  
Serial No. : Not yet assigned  
Filed : April 15, 2004  
Conf. No. : Unknown  
For : Novel Thermostable Proteolytic Enzymes and Uses Thereof in Peptide  
and Protein Synthesis

MAIL STOP PATENT APPLICATION  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §§ 1.97 AND 1.98

Sir:

In accordance with 37 C.F.R. §§ 1.97 and 1.98, Applicant would like to bring to the attention of the Examiner, the references cited in the following patent applications:

U.S. Serial No. 08/773,475, filed December 23, 1996, abandoned;  
U.S. Serial No. 09/197,945, filed November 23, 1998, now U.S. Patent No. 6,143,517;  
U.S. Serial No. 09/404,031, filed September 23, 1999; now U.S. Patent No. 6,573,065;  
and U.S. Serial No. 10/379,952, filed March 4, 2003.

37 C.F.R. § 1.98(d) states that a copy of any patent, publication, or other information listed in an information disclosure statement is not required to be provided if it was previously

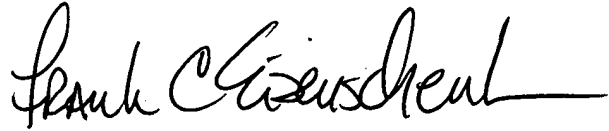
cited by or submitted to the Office in a prior application, provided that the prior application is properly identified in the statement and relied on for an earlier filing date under 35 U.S.C. § 120.

As copies of the references cited on the attached form PTO/SB/08, can be found in U.S. patent applications Serial No. 08/773,475, filed December 23, 1996; Serial No. 09/197,945, filed November 23, 1998; Serial No. 09/404,031, filed September 23, 1999 and Serial No. 10/379,952, filed March 4, 2003, copies of those references are not provided herewith. The subject application, claims the benefit under 35 U.S.C. § 120 of the filing date of U.S. patent applications Serial No. 08/773,475, Serial No. 09/197,945, Serial No. 09/404,031, and Serial No. 10/379,952. Accordingly, Applicant respectfully requests that the copies of references supplied in the Information Disclosure Statements of the 08/773,475, 09/197,945, 09/404,031, and 10/379,952 applications, as well as references cited during prosecution thereof, be made of record in this application.

It is respectfully requested that the Examiner indicate consideration of the cited references by returning a copy of the attached form PTO/SB/08 with initials or other appropriate marks. If any additional fee is required, or to credit any overpayment, please use Deposit Account No. 19-0065.

Applicant respectfully asserts that the substantive provisions of 37 C.F.R. §§ 1.56, 1.97, and 1.98 are met by the foregoing statements.

Respectfully submitted,



Frank C. Eisenschenk, Ph.D.

Patent Attorney

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Attachment: Form PTO/SB/08 (3pages)

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Application Number	Not yet assigned
Filing Date	April 15, 2004
First Named Inventor	David Michael Young
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	UF-174D4

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number – Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	U1	US-5,242,817	09/07/1993	Kelly <i>et al</i>	All
	U2	US-5,391,489	02/21/1995	Kelly <i>et al</i>	All
	U3				All
	U4				All

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Sheet 2 of 3

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article, (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	R1	ABRAHMSSEN, L., <i>et al.</i> "Engineering subtilisin and its substrates for efficient ligation of peptide bonds in aqueous solution" <i>Biochemistry</i> (1991) 30:4151-4159.	
	R2	BLUMENTALS, I.I., <i>et al.</i> "Characterization of sodium dodecyl sulfate-resistant proteolytic activity in the hyperthermophilic Archaeobacterium <i>Pyrococcus furiosus</i> " <i>Appl. and Environ. Microbiol.</i> (1990) 56(7):1992-1998.	
	R3	BRENNAN, M.B. "Enzyme discovery heats up: enzymes that could maximize industrial processing reactions are reaped from exotic microorganisms" <i>C&amp;EN</i> (1996) October:31-33.	
	R4	CASTELLAN, G.W. "Physical Chemistry", (2 <sup>nd</sup> Edition), pp. 245-247; Addison-Wesley Publishing Comp., Reading, MA.	
	R5	CHANG, <i>et al.</i> , "Protease I from <i>Pyrococcus furiosus</i> ", <i>Methods in Enzymology</i> (2001), 330:403-413.	
	R6	CHRISTENEN, U., <i>et al.</i> "Mechanism of carboxypeptidase-Y-catalyzed peptide symisynthesis" <i>Eur. J. Biochem.</i> (1992) 210:467-473.	
	R7	DE VOS, W.M., <i>et al.</i> , "Purification, characterization, and molecular modelling of pyrolysin and other extracellular thermostable serine proteases from hyperthermophilic microorganisms", <i>Methods in Enzymology</i> (2001), 330:383-393.	
	R8	EGGEN, R., <i>et al.</i> "Characterization of pyrolysin, a hyperthermocactive serine protease from the Archaeobacterium <i>Pyrococcus furiosus</i> " <i>FEMS Microbiol. Lett.</i> (1990) 71:17-20.	
	R9	FERSHT, A. "Enzyme Structure and Mechanism" 2 <sup>nd</sup> Edition, W.H. Freeman and Company, New York, (1985) pp. 89-90.	
	R10	FIALA, G. AND STETTER, K.O. " <i>Pyrococcus furiosus</i> s. Nev. represents a novel genus of marine heterotrophic Archaeobacteria growing optimally at 100°" <i>Arch Microbiol.</i> (1986) 145:56-61.	
	R11	HALIO, S.B., <i>et al.</i> "Sequence, expression in <i>Escherichia coli</i> , and analysis of the gene encoding a novel intracellular protease (Pfpl) from the hyperthermophilic Archaeon <i>Pyrococcus furiosus</i> " <i>J. Bacteriol.</i> (1996) 178(9):2605-2612.	
	R12	JENCKS W.P. "Catalysis in Chemistry and Enzymology" Dover Publication, Inc., New York, (1987) pp. 312-313.	
	R13	NAKATSUKA, T. <i>et al.</i> , "Peptide segment coupling catalyzed by the semisynthetic enzyme thiolsubtilisin" <i>J. Am Chem. Soc.</i> (1987) 109:3808-3810.	

Examiner Signature	Date Considered
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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

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Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article, (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	R14	PETKOV, D.D. "Enzyme peptide synthesis and semisynthesis: kinetic and thermodynamic aspects" <i>J. Thero. Biol.</i> (1982) 98:419-425.	
	R15	STETTER, K.O. "Microbial life in hyperthermal environments" <i>ASM News</i> (1995) 61(6):285-290.	
	R16	STETTER, K.O., <i>et al.</i> , "Hyperthermophilic microorganisms", <i>FEMS Microbiol. Rev.</i> (1990), 75:117-124.	
	R17	VOOHORST, W. <i>et al.</i> "Isolation and characterization of the hyperthermostable serine protease, pyrolysin, and its gene from the hyperthermophilic Archaeon <i>Pyrococcus furiosus</i> " <i>J. Biol. Chem.</i> (1996) 271(34):20426-20431.	
	R18	VOORHORST, W.G.B., <i>et al.</i> "Homology modeling of two subtilisin-like serine proteases from the hyperthermophilic Archaea <i>Pyrococcus furiosus</i> and <i>Thermococcus stetteri</i> " <i>Protein Engineering</i> (1997) 10(8):905-914.	
	R19	WOESE, C.R., <i>et al.</i> , "Towards a natural system of organisms : proposal for the domains Archaea, Bacteria, and Eucarya", <i>Proc. Natl. Acad. Sci. USA</i> (1990) 87:4576-4579.	
	R20		
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	R23		

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